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ABSTRACT

A small-scale investigation of the school performance and progress of Mexican Americans in Colorado during the 1970's indicated that the overall achievement pattern was similar to one noted for Hispanics nationally and in the Southwest: a consistently low and regularly decreasing performance in standardized tests of math and reading after grade three. Data from a sample of 13 state school districts with a majority of Hispanic students indicated this strong and progressive decline in both reading and math achievement. None of the districts reported a median score above the national level by grade nine and 62% reported scores below the norm. Because the state bilingual education act was implemented in 1975-76, many of the students whose records were examined were too old to have participated in the state bilingual education program. The results of this study supported the thesis that "Mexican Americans in Colorado have progressed with difficulty through the state educational system". Findings of the study, however, did not clarify the relationship of language background and English proficiency level to students' scholastic success. Further research is needed into this area. Other research efforts might also include comparison of types and amounts of bilingual programming, random samples of individual Mexican American students, and projects featuring Mexican American families with children of varying ages. (DS)

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A BRIEF SURVEY
OF
MEXICAN AMERICAN SCHOOL ACHIEVEMENT
IN
COLORADO
DURING THE 1970'S



U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
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I. INTRODUCTION

The Colorado Bilingual Education Act was passed in 1975 with the intent of improving the academic performance level of linguistically different pupils through bilingual programming.¹ The legislation appeared in response to the general assumption that linguistically different (LD) students performed well below the national norm in school, and in recognition of the fact that such language differences precluded equal educational opportunity within a traditional monolingual English classroom setting (U.S. Supreme Court, Lau vs. Nichols, 1974).

Improvement in English language arts skills constitutes a major goal of Colorado's state-funded bilingual education projects. Evaluation of state programming efforts therefore must include a determination of how much progress occurs for LD students in the bilingual programs. It also necessitates comparing that performance to what would have been the expected progress for those pupils in the absence of a program. These evaluation questions appear straightforward. All the same, any judgment

¹In Colorado, linguistically different refers to those pupils whose language background includes a language other than English and whose school achievement is simultaneously below the district norm.

of program effectiveness requires both an adequate evaluation design and appropriate data collection procedures.

In order to adequately evaluate the performance of linguistically different pupils in state bilingual education projects, it is useful to have pre-program or baseline information about both the school progress and the relative language proficiency of these pupils. Unfortunately, in Colorado such pre-program data is generally unavailable (Goldsmith and Babcock, 1979). Prior to the implementation of the state Bilingual Education Act in 1975-1976, there was no state identification of linguistically different students, nor thus any testing of their linguistic or academic proficiency.

Another method of gauging program effects is to collect comparative data on a control group of similar students who do not participate in the program. However, if state law requires bilingual education for eligible linguistically different students, it may be illegal to place those pupils in a control group where they would be denied access to the mandated program.

Given the constraints of insufficient baseline or comparative data, evaluation of the effects of state bilingual education projects upon Colorado's linguistically different students becomes less precise and more indirect.

This report, in fact, pursues one such indirect route in an attempt to provide pre-program background information.

Although there is little pre-bilingual program data about LD pupils in Colorado, it is clear that nearly all of the linguistically different students enrolled in state bilingual education projects are Mexican American. For example, figures from the Bilingual Bicultural Education Unit of the Colorado Department of Education show that, in 1978-79, there were 6435 linguistically different children enrolled in state-funded bilingual education programs (K-3). Approximately 6200, or 97%, were Mexican American while the remainder were Native American.² Thus, one might trace the academic record of Mexican Americans within the state to gain an insight into the past school performance of this ethnic group. In doing so, however, it must be strongly reiterated that not all Mexican Americans are linguistically different. Any background description of the total group, though, should provide informative data for understanding the history of those LD students who are Mexican American as well.

²This information was obtained in a telephone conversation with Larry Egan, an evaluator from the state bilingual education unit, in September, 1979.

II. MEXICAN AMERICAN SCHOOL ACHIEVEMENT:
NATIONALLY AND IN THE WEST

What can be ascertained about the school progress of this ethnic group? There is a substantial body of literature analyzing Mexican American school achievement in the Southwest and Hispanic performance nationally. Earlier studies by Coleman (1966), Carter (1970), and the U.S. Commission on Civil Rights (1971-1974) provide evidence that Mexican Americans perform well below national norms in language arts and math. Moreover, according to Carter, the Mexican American student falls progressively further behind as he continues in school.

A more recent study has been published by the National Assessment of Educational Progress (NAEP - 1977). This report examines the achievement of Hispanic students, both nationally and in the West or Northeast. The assessment covered testing in five learning areas from 1971 to 1975. NAEP based the research on a large representative sample of students, and included data collected in Colorado. The results show a clear pattern of extremely low and declining achievement in reading and math for Western Hispanics at age 9, 13, and 17. In fact, their achievement is from 10-14 percentage points below the national levels

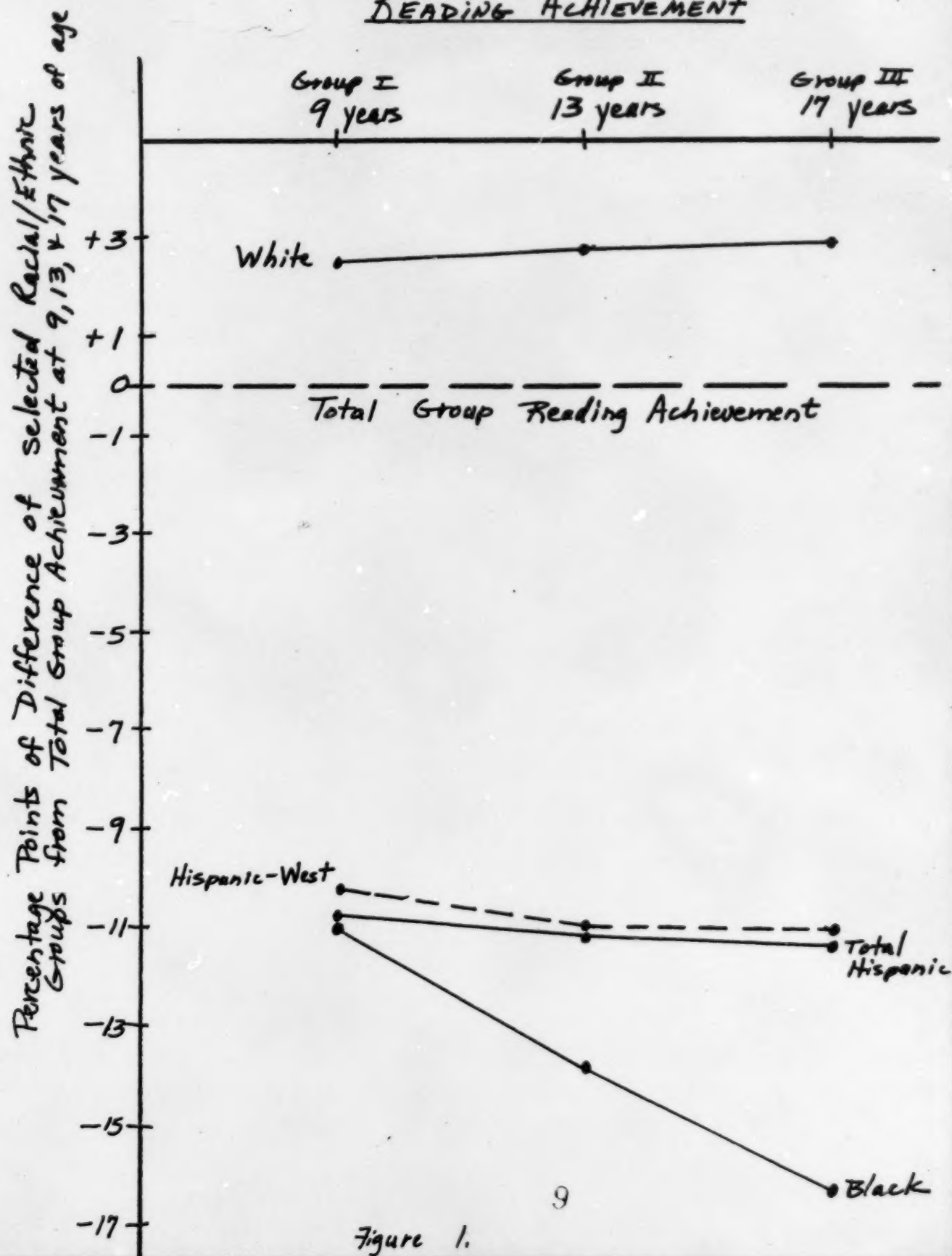
in all five subject areas: reading, math, social studies, science, and career and occupational development. This significantly disparate pattern is seen in Figures 1-5 which graph achievement as measured by NAEP for several racial/ethnic groups. The findings are even more disturbing when it is recognized that the generally acknowledged high drop-out rate of Hispanic students (U.S. Commission on Civil Rights, 1971) would have eliminated many of the lowest achievers from the study's sample of 17-year olds.

It should also be noted that the NAEP study made no distinctions about the English language proficiency of Hispanic students, categorizing all students sampled as English-speaking. Thus, language ability as a factor in performance on achievement tests cannot be deduced from this report.

All the same, the report does provide a baseline indication of the achievement of a large portion of the U.S. Hispanic population for the years 1971 to 1975.

[Insert Figures 1-5]

-6-
NAEP STUDY 1971-1975
READING ACHIEVEMENT



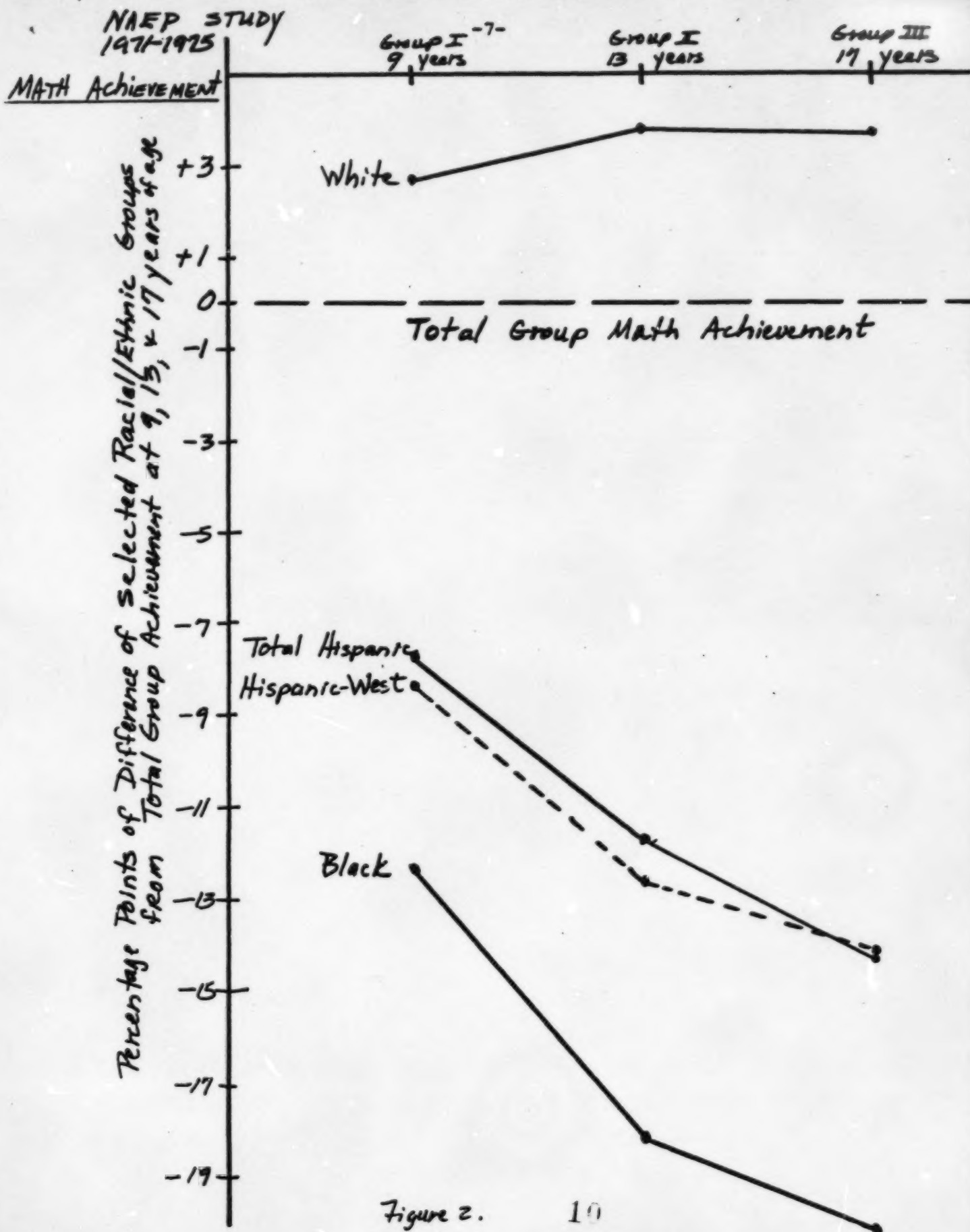


Figure 2.

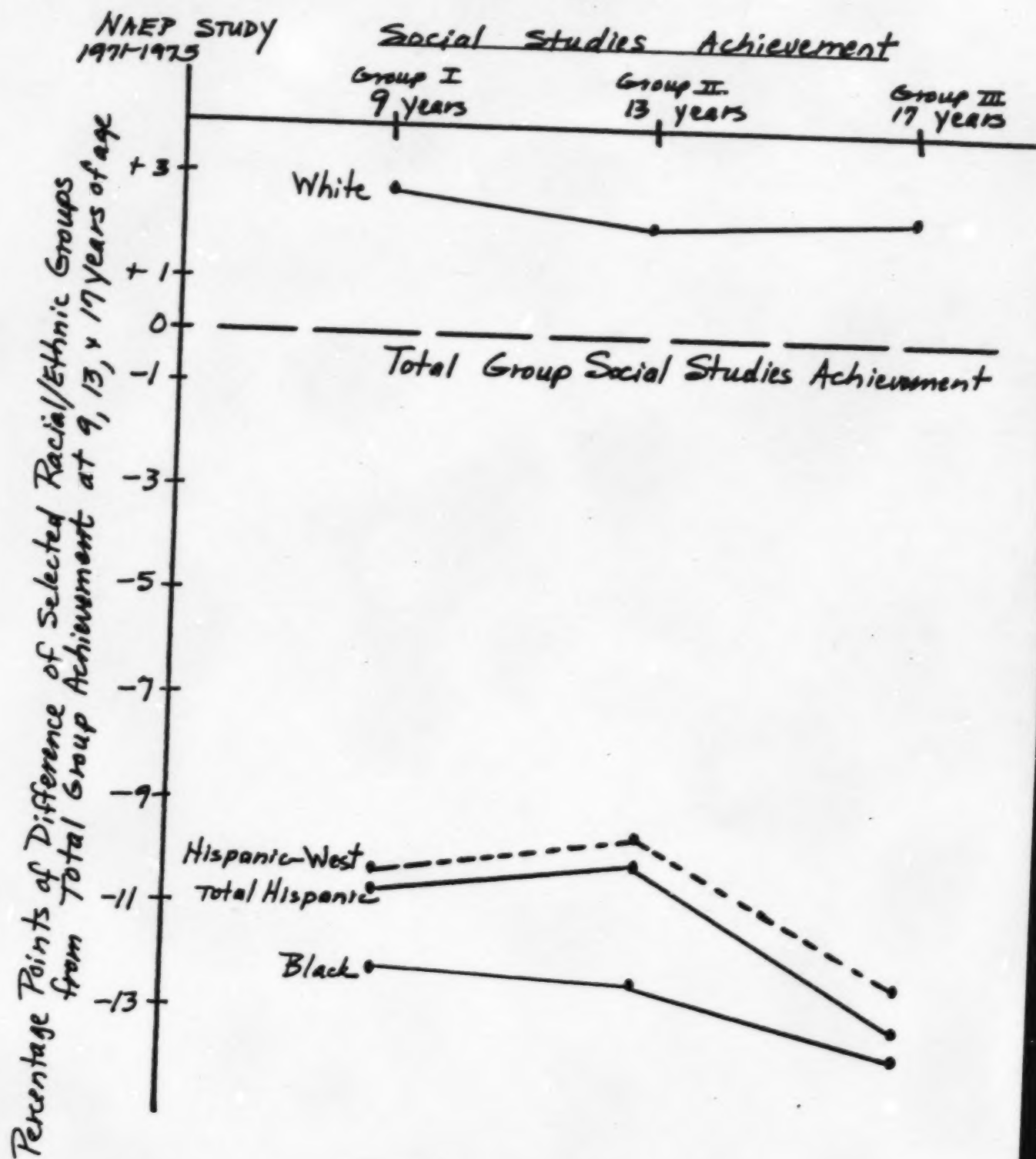


Figure 3.

NAEP STUDY
1971-1975

-9-
SCIENCE ACHIEVEMENT

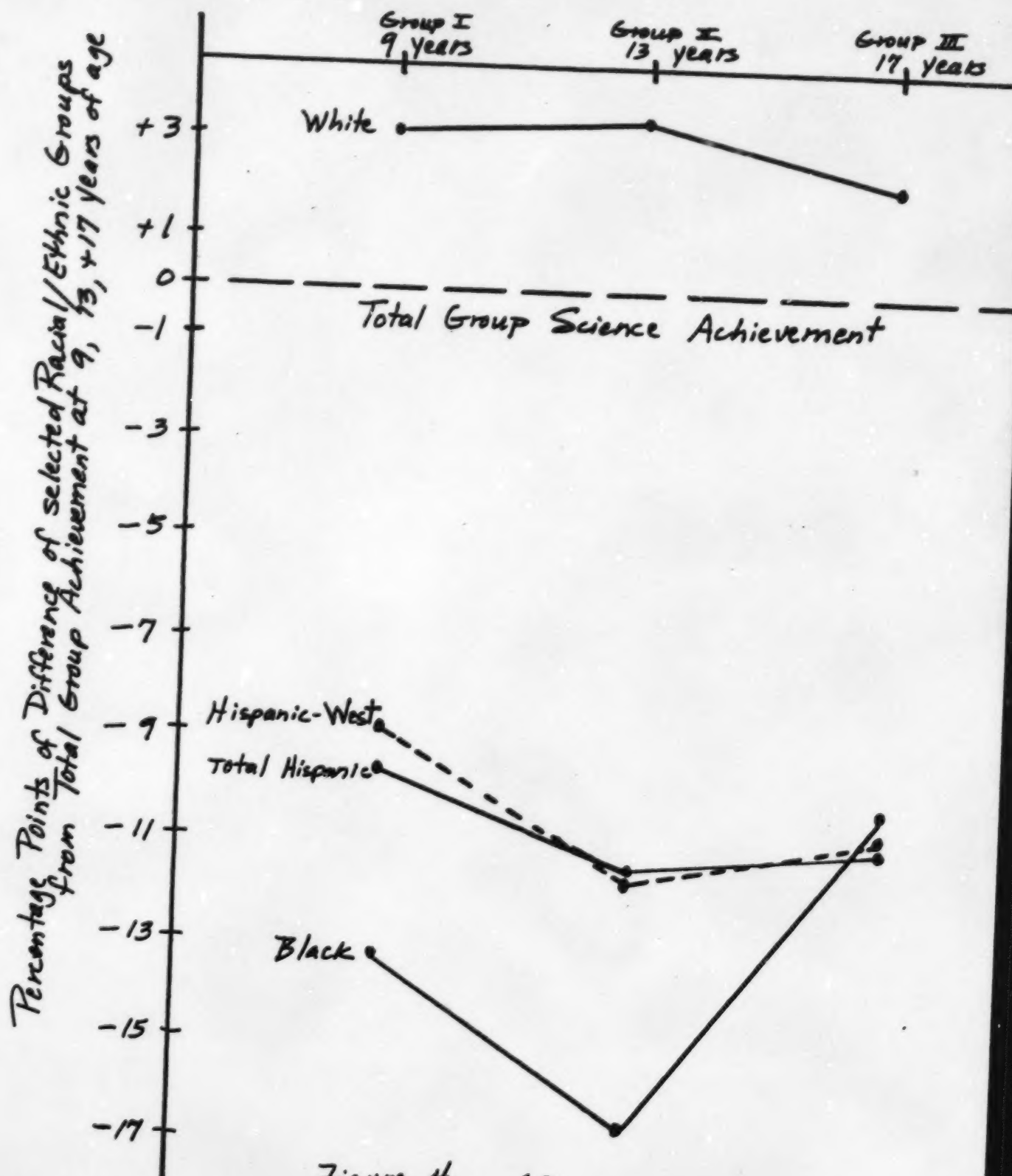


Figure 4. 12

NAEP STUDY
1971-1975

-10-
CAREER AND OCCUPATIONAL DEVELOPMENT ACHIEVEMENT

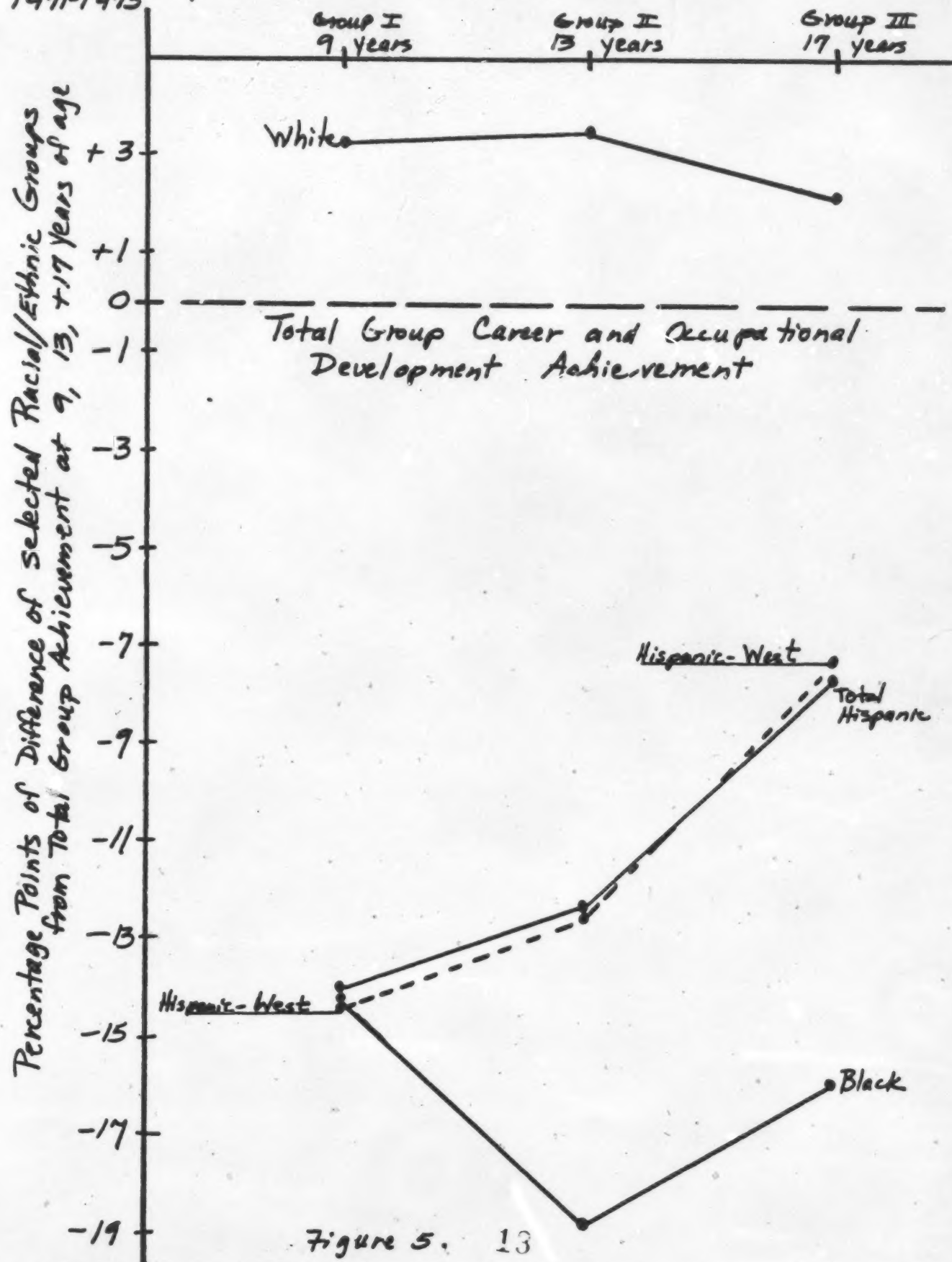


Figure 5. 13

Language background and school progress are discussed, though, in findings released by the National Center for Education Statistics (NCES - 1978). As evidenced by Figure 6, their 1976 national survey shows that:

1) Hispanics enrolled in grades 5-12, who primarily speak English, are twice as likely to be two or more grades below the grade level expected for their age as pupils with English language backgrounds.

2) Hispanics enrolled in grades 5-12, who primarily speak Spanish, are more than three times as likely to be two or more grades below the grade level expected for their age as pupils with English language backgrounds.

The NCES bulletin cautions against drawing causal inferences about the use or non-use of English as a main factor in academic progress or drop-out rate. Still, the study does highlight the interrelationship of language background, language use, and progress in school.

[Insert Figure 6]

CHART 1.—Percentages of students 2 or more years behind expected age-grade levels by ethnic origin and language characteristics:
 Spring 1976

- NCRS STUDY -

-12-

Bulletin 78B4 (July 1978)

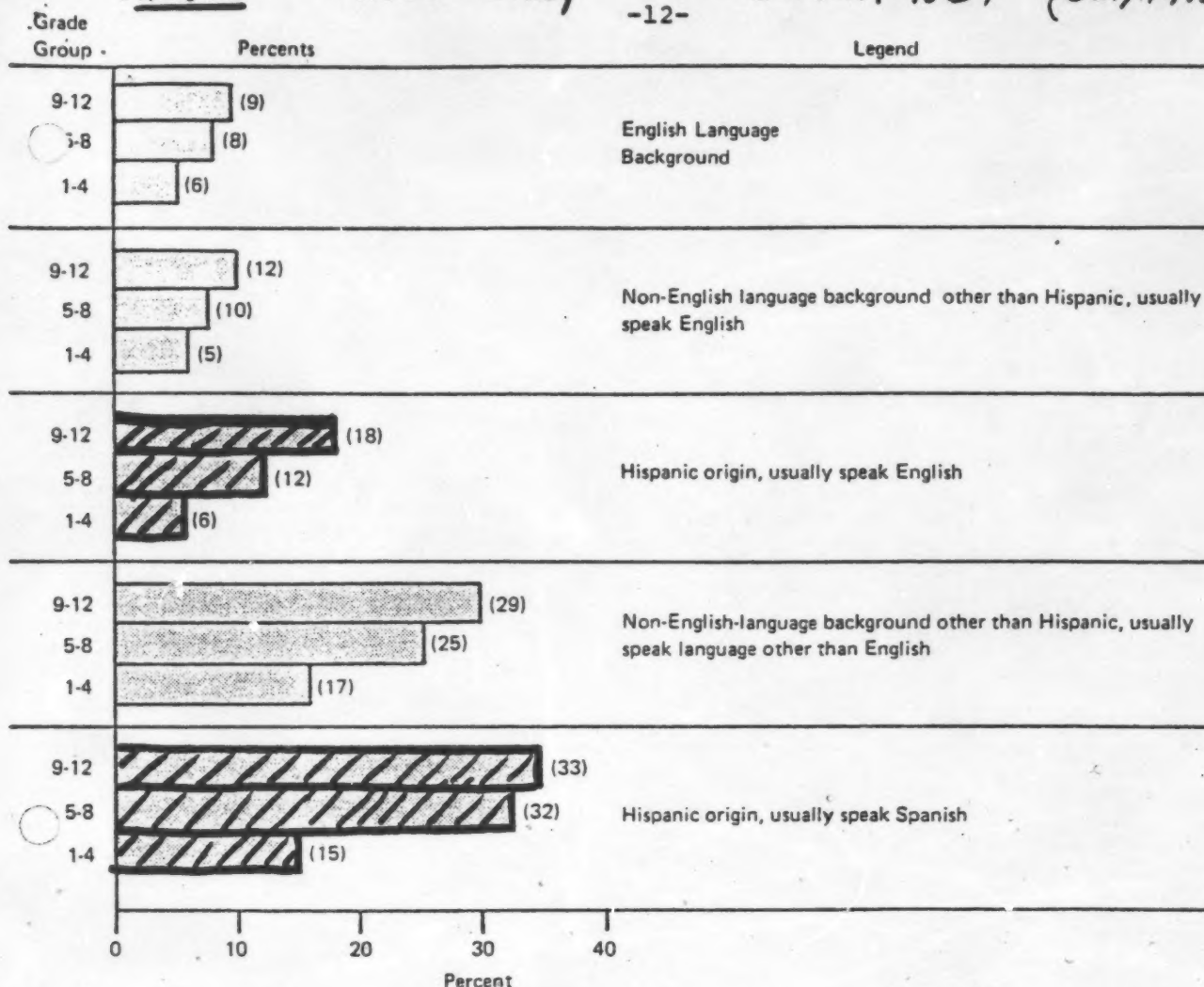


CHART 2.—Percentages of 14-25 year olds who have dropped out of school, by ethnic group and language characteristics:
 Spring 1976

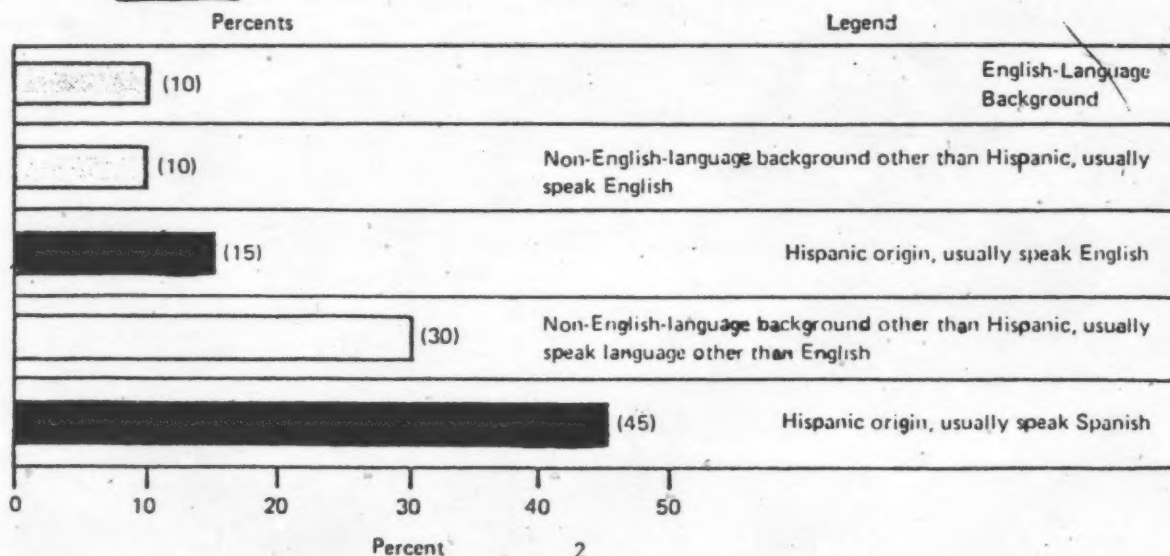


Figure 6.

III. A SEARCH FOR PAST REPORTS ON MEXICAN AMERICAN
SCHOOL ACHIEVEMENT IN COLORADO

These national and regional studies paint a picture of both low and progressively declining achievement for Hispanics in school during the 1970's. Yet, what is the group's record of performance in Colorado schools? The Colorado Department of Education appears to have been reluctant to address this issue since no information has been collected which directly supplies the answer. Since 1974 school districts have reported enrollment data on pupil membership by ethnic group. They have also submitted annual information of district median performance on standardized achievement tests. This data is published by the state Department of Education in their yearly Consolidated Report on Elementary and Secondary Education. But the district achievement data is NOT broken down nor reported by ethnic or linguistic group. A longitudinal analysis of Mexican American school performance per se is therefore impossible on a statewide level from these records.

Nevertheless, a limited number of school districts have inspected their local records by ethnic/linguistic group. For example, two Colorado districts

were able to provide some pertinent data which they had gathered previously to document bilingual education grant proposals.³

In one instance, a 1970 cross-sectional compilation from a small, rural school district in Colorado showed that a progressively higher number of Spanish-surnamed students fell below either their expected grade equivalency or the 50th percentile. In the elementary grades, a far greater percentage of Mexican Americans were below grade level than were the rest of the students, labeled "other." No such comparison was made at the secondary level. The following summary of this district's data in Figure 7 reveals a readily discernible decline in the language arts performance of these minority pupils.

[Insert Figure 7]

³The districts supplying this information requested anonymity, though permission was given to present the data.

1970

Needs Assessment of a Colorado School District*

With Under 2000 Pupils (K-12)

LANGUAGE ARTS COMPOSITE ACHIEVEMENT

Performance on ITBS or ITED
in comparison with national norms

Grade 3:	Spanish Surname:	65% below national grade equivalency
	Other:	33% below national grade equivalency
Grade 6:	Spanish Surname:	75% below national grade equivalency
	Other:	40% below national grade equivalency
Grade 9:	Spanish Surname:	89% below national 50th percentile
Grade 12:	Spanish Surname:	100% below national 50th percentile

*Anonymity was requested by this district.

Figure 7.

Another much larger and more urban district followed the achievement of 45 Spanish-surnamed students in three learning areas from grade 3 in 1972 to grade 6 in 1975. As illustrated by Figure 8, the performance of this group of Mexican American pupils was consistently below that of both local and national averages in reading, math, and language in grades 3 and 6. Furthermore, by grade 6 their performance was significantly below the national average in each subject area. The overall grade 6 district average, on the other hand, was above the national norm in reading and very close to it in both math and language.

[Insert Figure 8]

A Follow-up Study from a Colorado School District* of Over 10,000 Pupils

Grade Achievement
California Achievement Test-1970 Edition

Follow-up of 45 Spanish-Surnamed Students
Tested in 1972 (Grade 3) and in 1975 (Grade 6)

<u>Reading</u>	<u>National Average</u>	<u>District Average for All Students</u>	<u>District Average Spanish-Surnamed Students</u>
<u>Grade 3 - 1972</u>			
Mean Grade Equivalent	3.5	4.4	3.3
Percentile Rank	50	72	47
<u>Grade 6 - 1975</u>			
Mean Grade Equivalent	6.1	6.4	5.1
Percentile Rank	50	54	34
Improvement in Grade Equiv. 1972-75	2.6	2.0	1.8
Change in Percentile Rank 1972-1975	none	72 to 54	47 to 34
<u>Mathematics</u>			
<u>Grade 3 - 1972</u>			
Mean Grade Equivalent	3.5	3.8	3.3
Percentile Rank	50	69	47
<u>Grade 6 - 1975</u>			
Mean Grade Equivalent	6.1	5.8	5.2
Percentile Rank	50	46	30
Improvement in Grade Equiv. Grades 3-6	2.6	2.0	1.9
Change in Percentile Rank Grades 3 - 6	none	69 to 46	47 to 30
<u>Language</u>			
<u>Grade 3 - 1972</u>			
Mean Grade Equivalent	3.5	4.4	3.3
Percentile Rank	50	73	47
<u>Grade 6 - 1975</u>			
Mean Grade Equivalent	6.1	5.9	4.8
Percentile Rank	50	48	30
Improvement in Grade Equiv. Grades 3-6	2.6	1.5	1.9
Changes in Percentile Rank Grades 3-6	none	73 to 48	47 to 30

*Anonymity was requested by the school district.

Figure 8.

This same Colorado district, in a 1978-79 needs assessment, indicated that large differences continued to exist between the school performance of their Hispanic students (who comprise less than 10% of the total pupil membership) and that of all students in the district. It should be noted that some of the district's grade 4 pupils, both Hispanic and non-Hispanic, may have participated in a bilingual education classroom in grade 2 or grade 3. There is no way to determine this from the information supplied. Except for grade 6 reading, the achievement of these Mexican American pupils was notably below the national median of 50. However, the overall district level was regularly above that point. The comparison is summarized in Figure 9.

[Insert Figure 9]

1978-79

Needs Assessment of a Colorado School District*

With Over 10,000 Pupils (K-12)

GRADE ACHIEVEMENT SCORES

Stanford Achievement Test

	<u>National Median All Students</u>	<u>District Median All Students</u>	<u>District Median Spanish-surnamed Students**</u>
<u>Grade Four</u>			
Total Reading	50	69	39
Vocabulary	50	73	35
Language	50	69	39
<u>Grade Six</u>			
Total Reading	50	71	59
Vocabulary	50	69	37
Language	50	67	41
<u>Grade Nine</u>			
Total Reading	50	63	35
Vocabulary	50	65	31
Language	50	57	35

*Anonymity was requested by the school district.

**Spanish-surnamed students comprise less than 10% of the total pupil membership.

Figure 9.

The data reported by these two selected local districts indicates that some Mexican American pupils in Colorado have had a past record of low achievement which grew progressively more deficient with advancing grade levels. Yet, these are only isolated examples. Once again, no statewide conclusions can be drawn from these statistics.

IV. A STUDY OF MATH AND READING ACHIEVEMENT IN THIRTEEN COLORADO SCHOOL DISTRICTS WITH OVER 50% MEXICAN AMERICAN ENROLLMENT

A. Methodology

As mentioned previously, the state reports of educational progress do not provide achievement data by ethnic or linguistic group. How then can any sort of background, baseline information be gathered ex post facto about Mexican Americans generally in Colorado? One approach is to identify school districts or particular schools which are predominantly Mexican American in membership and then to track the past achievement records of those districts or schools, both over time and in different grade levels. Of course, it would be even more helpful to identify Mexican American pupils within selected schools and to

collect achievement information from their individual cumulative folders.

Considering the time constraints of this research project, it was only feasible to identify and look at a sample of 13 Colorado school districts which have each had an Hispanic membership of over 50% since 1974-75. The average K-12 total pupil membership was 0-1200 students for nine of the districts and 1200-2400 pupils for the other four districts studied. A sample of 13 similar-sized school districts with an Hispanic enrollment of less than 10% per district was also examined for comparative purposes.

Essentially, the investigation involved using state records to trace the sample districts' achievement reports in reading and math at grades 3, 6, 9, and 12 over the last several years as data was available, from 1973 or 1974 through 1977-78. The records examined were generally assumed to have been those of students too old to have participated in state bilingual education programs. A small number of pupils may have been exposed to Title VII-funded bilingual education at some period, but such information was not readily available. An informal search indicated that if any such exposure existed, it was minimal and intermittent in the sample districts.

The district scores were then charted in math and reading at each grade level for the various years of interest. Trends for each subject, math and reading, within each grade level (3,6,9,12) were coded as:

- 1) generally stable, rising, declining, or showing a mixed pattern of position over more than two years.
- 2) being even with national norms or approximately $1/3$ of a standard deviation above or below those norms for more than two years.

Since achievement scores were reported in varying fashion, if given in grade equivalency, ± 4 months at elementary school and ± 5 months at secondary school was used as the $1/3$ of a standard deviation difference from the national grade equivalency. If scores were given in percentiles, $\pm .05$ percentile points of difference from the national norm at grade 3 and $\pm .06$ points at grades 6-12 were used as the criteria.

To complicate matters, districts not only reported scores differently, but also varied grades in which testing was conducted. As a result, scores reported from grade 2, 3, or 4 were coded as grade 3; those from grade 5, 6, or 7 were listed as grade 6; the ones from grade 8, 9, or 10 were noted as grade 9; and the scores from grade 11 or 12 were listed as grade 12. Although different

test instruments were used, it was assumed for the purposes of this study that both the test publishers' norms and the data reported by each district were adequate.

This evaluation procedure was adopted since it resembles that used by the Colorado Department of Education in obtaining information for accountability purposes. It is judged to present a reasonably accurate picture of pupil progress.

B. Findings

The results of this compilation of state achievement data are illustrated in Figures 10-12. Many of the 26 districts surveyed did not report any scores for grade 12, so the findings are only presented for grades 3, 6, and 9. The trends are listed by percentage of school districts in the sample reporting performance as consistently above, below, or even with national norms during the mid-1970's.

As can be seen easily, there is a strong pattern of extreme and progressive decline in both reading and math achievement in the group of Colorado school districts with a large concentration of Mexican American students.

[Insert Figures 10-12]

COLORADO SURVEY - MATH AND READING ACHIEVEMENT*

	<u>ABOVE</u>		<u>EVEN</u>		<u>BELOW</u>	
	High Hispanic	Low Hispanic	High Hispanic	Low Hispanic	High Hispanic	Low Hispanic
<u>MATH</u>						
grade 3:	46%	69%	38%	31%	8%	0%
6:	8%	54%	46%	46%	38%	0%
9:	0%	38%	31%	54%	62%	8%
<u>READING</u>						
grade 3:	31%	100%	54%	0%	8%	0%
6:	23%	77%	31%	23%	38%	0%
9:	0%	54%	31%	31%	62%	15%

* Information is listed by percentages of school districts within each sample of 13 districts which showed a pattern of performance on standardized tests that was above, below, or even with national norms during the mid-1970's. Some data was missing, causing the total percentages to not always equal 100%.

"High Hispanic" = The sample of 13 school districts with Over 50% Hispanic enrollment according to state records.

"Low Hispanic" = The sample of 13 districts with Under 10% Hispanic enrollment according to state records.

Figure 10.

COLORADO SURVEY

READING ACHIEVEMENT - IN SCHOOL DISTRICTS OVER 50% HISPANIC

Percentage of school districts reporting performance as above, below, or even with national norms during the 1970's. Some data was missing, causing totals to not always equal 100%.

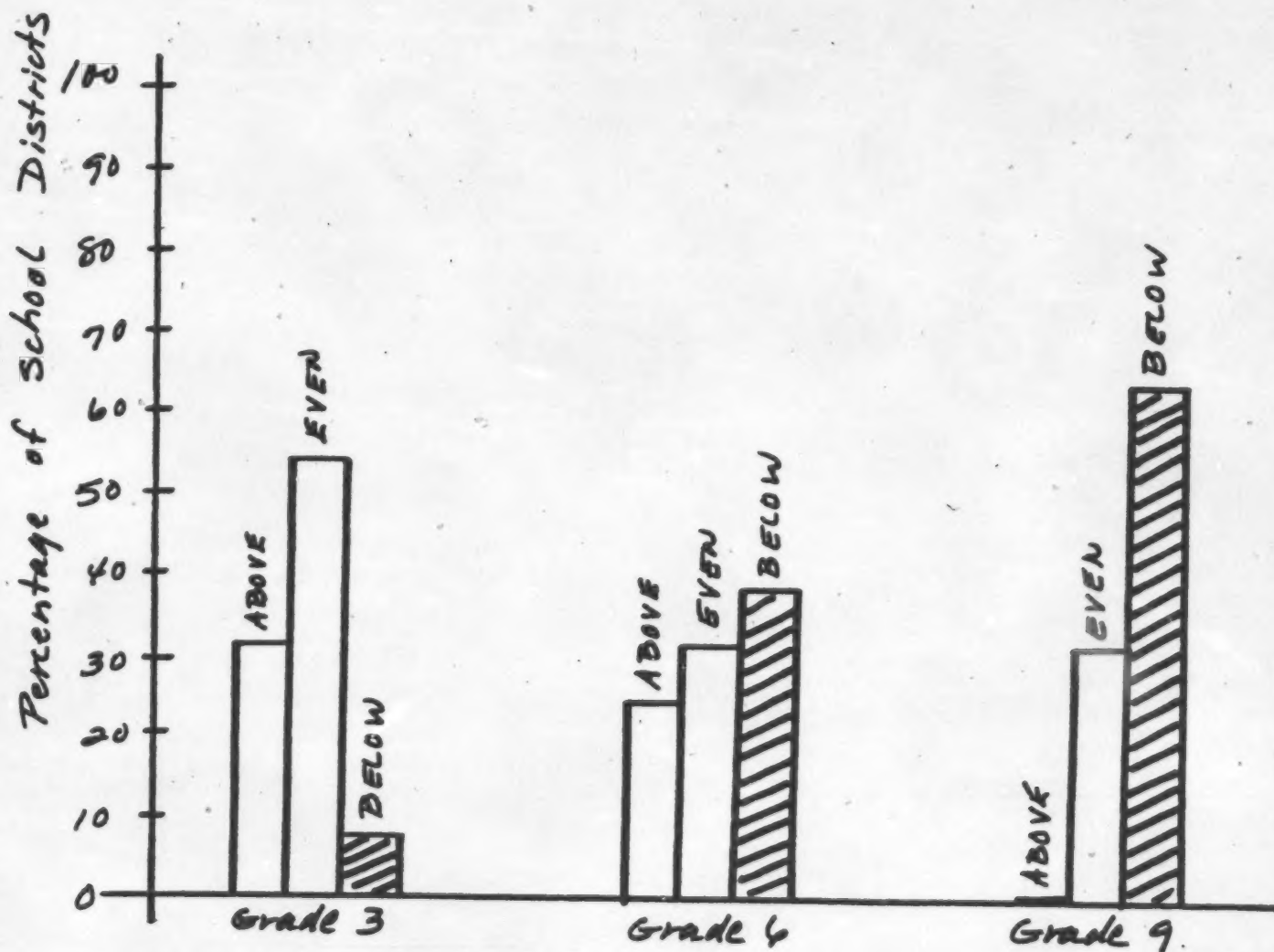


Figure 11.

COLORADO SURVEY

MATH ACHIEVEMENT - IN SCHOOL DISTRICTS OVER 50% HISPANIC

Percentage of school districts reporting performance as above, below, or even with national norms during the 1970's. Some data was missing, causing totals to not always equal 100%.

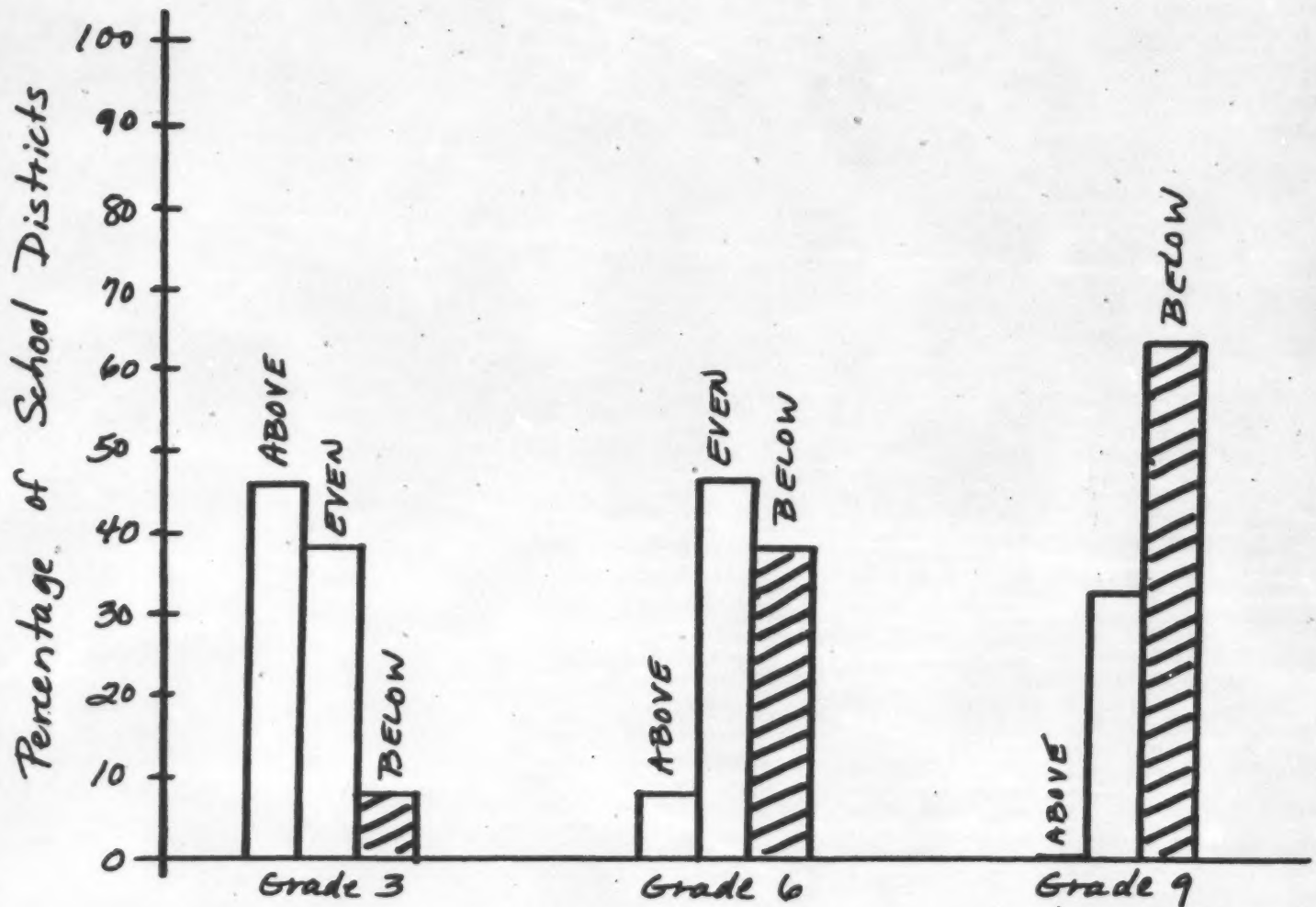


Figure 12.

The main goal of this investigation was to describe the school performance and progress of Mexican Americans in Colorado during the 1970's. From this initial survey, it appears evident that in the sample of 13 state districts with a majority of Hispanic students the overall achievement pattern is similar to the one described earlier for Hispanics nationally and in the Southwest. That is, there is a picture of consistently low and regularly decreasing performance on standardized tests of math and reading after grade 3. With the result that by grade 9, none of these Colorado districts report a median score above the national norm and 62% report scores below the norm. In contrast, the comparison school districts have initially higher achievement levels and a slower rate of decline. As a result, by grade 9, 50% of these comparison districts are still above the norm in reading and 38% are above in math. Moreover, a very low percentage of the comparison districts are below the norm in either subject area. This Colorado dichotomy also resembles that found between Hispanics and all students in the national and regional studies discussed previously.

V. CONCLUSIONS

The results of this small-scale project offer tentative support for the thesis that Mexican Americans in Colorado have progressed with difficulty through the traditional state educational system. However, the findings can not directly clarify a central issue in discussions of bilingual education: the relationship of language background and English proficiency level to students' scholastic success. This relationship is of primary concern, though, when designing an appropriate educational program or evaluation procedure for linguistically different pupils. As stressed at the outset, it must be acknowledged that not all Mexican Americans in Colorado are linguistically different. Yet, for a great many of these state residents, Spanish is a pervading influence in their homes and everyday lives. At the same time, a considerable number of the state's linguistically different students do come from this ethnic group. Thus, any information which can be offered about Mexican Americans in Colorado should broaden our understanding of the intricacies of language and schooling.

While there are difficulties with the indirect type of ex post facto research described here, the findings of this cursory study suggest that further research might be worthwhile. For example, one could first select par-

ticular schools which had a high concentration of Mexican American pupils and which were from a cross-section of school districts. Prior to de-segregation changes, such schools could be isolated. Comparison schools could be chosen as well. It might be useful, as a means of eliciting political support for bilingual education, to select a given number of schools from each state congressional or senatorial district. Then, using the school as the unit of analysis, one would proceed to track the achievement records of those schools at various grade levels over several years. Historical data should be collected as to the drop-out rate and previous type or amount of bilingual programming offered in each school/district. This information would provide a more complete background picture to use for comparison when discussing what happens to Mexican American pupils in bilingual education programs during future years.

Another research alternative would be to identify and randomly sample individual Mexican American students, examining their individual performance records over several years.

Or, an ethnographic project could be undertaken. Case studies of Mexican American families whose children differ in age, linguistic skill, and educational experiences might ultimately provide the most rewarding portrayal of Colorado's Hispanic group.

Naturally, all of these suggestions for a more thorough research effort demand a sufficient amount of time, energy, and financial support. Perhaps, in the interim, this small-scale study will prompt local administrators and bilingual education personnel in Colorado to examine carefully the past and current performance of their own Mexican American students. Hopefully, they will also realize the importance of evaluating the relative language proficiency of these pupils in both English and Spanish, as well as of documenting student progress longitudinally (Rodriguez-Brown, 1976).

With more appropriate and rigorous local evaluation procedures, the effects of state bilingual education programming upon linguistically different pupils can be discussed far more directly and precisely. This preciseness, in turn, is necessary to ensure both equal opportunity and equal success for these students in Colorado's educational institutions.

SELECTED BIBLIOGRAPHY

- American Institutes for Research (AIR). Evaluation of the Impact of ESEA Title VII Spanish/English Bilingual Education Program. Palo Alto, CA: Author, 1977.
- Bortin, B.H. "Bilingual Program Evaluation: Processes and Problems." New York: Paper presented at the annual meeting of the American Educational Research Association, 1977. ERIC Document ED 137 350
- Carter, T.P. Mexican Americans in School: A History of Educational Neglect. New York: College Entrance Examination Board, 1970.
- Coleman, J. et al. Equality of Educational Opportunity. Washington, C.D.: U.S. Department of Health, Education and Welfare, Office of Education, 1966.
- Colorado Department of Education. Consolidated Report on Elementary and Secondary Education. 1971-1979.
. Pupil Membership and Related Information. Fall 1974-Fall 1979.
- Goldsmith, R. and Babcock, M. "Analysis of the Final Evaluation Reports Submitted to the Bilingual Unit of the Colorado Department of Education by Bilingual Education Programs Funded Under the Colorado Bilingual/Bicultural Education Act During the 1977-78 School Year." Unpublished report submitted by the National Dissemination and Assessment Center for Bilingual Education, Austin, Texas, January, 1979.
- Golub, L.S. "Evaluation Design and Implementation of a Bilingual Education Program, Grades 1-12. Spanish/English." Paper presented at the annual meeting of the Educational Research Association. ERIC Document ED 137 332
- Gray, T. "Response to AIR Study 'Evaluation of the Impact of ESEA Title VII Spanish/English Bilingual Education Program'." Arlington, VA: Center for Applied Linguistics, 1977. ERIC Document ED 138 122
- Law, A.I. "Evaluating Bilingual Programs." TM Report 61. Washington, D.C.: Department of Health, Education and Welfare, 1977. ERIC Document ED 138645
- National Assessment of Educational Progress. Hispanic Achievement in Five Learning Areas: 1971-1975. Washington, D.C.: U.S. Government Printing Office, 1977.
- National Center for Education Statistics. "The Educational Disadvantage of Language-Minority Persons in the United States," Bulletin 78 B 4, July, 1978.

Robledo, M. et al. Colorado Bilingual Education Cost Analysis.
San Antonio, Texas: IDRA, 1978.

Rodriguez-Brown, F.V. et al. "Longitudinal Design Considerations for the Evaluation of Bilingual Programs." San Francisco: Paper presented at the annual meeting of the American Educational Research Association, 1976. ERIC Document ED 128 416

Tucker, G.R. and Cziki, G.A. "The Role of Evaluation in Bilingual Education." Washington, D.C.: Paper presented at the Georgetown University Round Table on Languages and Linguistics, 1978.

U.S. Commission on Civil Rights. The Mexican American Education Study. Reports 1-6. April 1971-February 1974.

U.S. Commission on Civil Rights. The Unfinished Education. Report 2, Mexican American Education Study, October, 1971.

U.S. General Accounting Office. Bilingual Education: An Unmet Need. Washington, D.C.: Author, 1976. ERIC Document ED 126 724

U.S. Supreme Court. 414 U.S. 563, 1974.

APPENDIX A: REPORT OF ACTIVITIES FOR RESEARCH PROJECT
(Summer 1979)

Nature of the Project: to locate any available information on the school achievement of Mexican American pupils in Colorado prior to state bilingual education funding which began in 1975-76.

A. Agencies or Persons contacted

1. Colorado Department of Education
 - a. Bilingual bicultural Education Unit
 - b. Data Acquisition Services
 - c. Minority Programs
 - d. Office of Pupil Progress/Accountability
2. Chicano Education Project
3. Education Commission of the States
 - a. National Assessment of Educational Progress
4. Denver Office of H.E.W. Office on Civil Rights
5. Mc-Graw Hill, Publishers of the CTBS Achievement Test
6. Bilingual Education Directors and Evaluators in Colorado

B. Reports or Documents Utilized, Searched:

1. ERIC computer search from the National Clearinghouse for Bilingual Education.
2. University of Colorado Bilingual Education Resource Center, ERIC Documents list and file.
3. University of Colorado, Norlin Library holdings on dissertations pertinent to Mexican American school achievement.

4. Bulletin of the National Center for Education Statistics: See bibliography.
5. National Assessment of Educational Progress report on Hispanic achievement in five learning areas: See bibliography.
6. Colorado Department of Education:
 - a. yearly consolidated reports on elementary and secondary education: in Data Acquisitions Office; also available at the C.S.U. Morgan Library(1971-1979).
 - b. pupil membership and related information: in Data Acquisitions Office, 1974-1979. The information is listed by district in the published reports, but the office has computerized print-out listing ethnic group membership by school.
 - c. Carter (1970) cites a publication which does NOT seem to be available any longer - searched the state archives and state library: Colorado Dept. of Education. "The Public Schools and Spanish Speaking Children." A Research Contribution for Education in Colorado, Jan. 1967, III, No. 3.

C. Possible Sources to Examine in Future Studies:

1. Look at the early proposals for state bilingual education funding. These are boxed and in the basement of the Colorado Department of Education, per the state Bilingual Education Unit.
2. Double-check which districts received what amount of bilingual federal aid, implementing/programs to what degree.